



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2011-1285; Directorate Identifier 2010-SW-073-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Eurocopter Deutschland GmbH Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for Eurocopter Deutschland GmbH Model BO-105A, BO-105C, BO-105LS A-1, BO-105LS A-3, and BO-105S helicopters. This proposed AD would require inspecting certain main rotor blades for debonding of the erosion protective shell. If the erosion protective shell is debonded, you would be required to replace the main rotor blade with an airworthy main rotor blade. This proposed AD is prompted by the results of an inspection on a BO-105 helicopter where debonding was discovered on a main rotor blade erosion protective shell, and it was determined that the debonding was due to incorrect installation of the erosion protective shell. Subsequently, an incident occurred where a BO-105 helicopter lost its main rotor blade erosion protective shell during flight. The actions specified by this proposed AD are intended to detect debonding of the main rotor blade erosion protective shell which could lead to an unbalanced main rotor, high vibrations, damage to the tail boom or tail rotor, and loss of control of the helicopter.

**DATES:** Comments must be received on or before [insert date 60 days after date of publication in the **Federal Register**].

**ADDRESSES:** Use one of the following addresses to submit comments on this proposed AD:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may get the service information identified in this proposed AD from American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, TX 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at <http://www.eurocopter.com/techpub>.

**FOR FURTHER INFORMATION CONTACT:** Jim Grigg, Manager, FAA, Rotorcraft Directorate, Safety Management Group, 2601 Meacham Blvd, Fort Worth, TX 76137, telephone (817) 222-5126, fax (817) 222-5961.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the caption ADDRESSES. Include the Docket No. "FAA-2011-1285, Directorate Identifier 2010-SW-073-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will

consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed rulemaking. Using the search function of the docket web site, you can find and read the comments to any of our dockets, including the name of the individual who sent or signed the comment. You may review the DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-78).

#### **Examining the Docket**

You may examine the docket that contains the proposed AD, any comments, and other information in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located in Room W12-140 on the ground floor of the West Building at the street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

#### **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued Emergency AD No. 2010-0216-E, dated October 21, 2010 (corrected October 29, 2010), to correct an unsafe condition for Eurocopter Deutschland Model BO-105A, BO-105C, BO-105D, BO-105LS A-1, BO-105LS A-3, and BO-105S helicopters, all variants (except CB-5 and DBS-5, which are military models.) EASA advises that during an inspection on a BO-105 helicopter, debonding was found on the erosion protective shell of a main rotor blade, and it was determined that the debonding was caused by incorrect installation of the erosion protective shell. In addition, EASA states that an incident occurred where a

second BO-105 helicopter lost its erosion protective shell during flight. EASA advises that this condition, if not detected, could result in loss of the main rotor blade erosion protective shell during flight, leading to an unbalanced main rotor and high vibrations, which could result in damage to the tail boom or tail rotor, loss of tail rotor control, and loss of control of the helicopter.

### **Related Service Information**

Eurocopter Deutschland has issued Emergency Alert Service Bulletin No. BO105-10-124, dated July 14, 2010, for the Model BO105 helicopter, with a main rotor blade, part number (P/N) 105-15103, 105-15141, 105-15141V001, 105-15143, 105-15150, 105-15150V001, 105-15152, 105-81013, 105-87214, 1120-15101, or 1120-15103, where the main rotor blade erosion protective shell was replaced between September 2006 and March 2010. Eurocopter Deutschland also issued Emergency Alert Service Bulletin BO105LS-10-12 for the Model BO105LS A-3 helicopter, dated July 14, 2010, with a main rotor blade, part P/N 105-15141, where the main rotor blade erosion protective shell was replaced between September 2006 and March 2010. Both Emergency Alert Service Bulletins specified a one-time inspection of the main rotor blades within the next 50 flight hours to determine if debonding of the main rotor blade erosion protective shell has occurred. Both Service Bulletins exclude helicopters from this inspection if each main rotor blade was inspected at the last 600 flight hour inspection and no debonding was detected during the inspection.

In response to the incident where the helicopter lost its main rotor blade erosion protective shell during flight, Eurocopter Deutschland has issued Emergency Alert Service Bulletin No. BO105-10-124, Revision 1, dated October 18, 2010, and Emergency Alert Service Bulletin BO105LS-10-12, Revision 1, dated October 20, 2010. These Service Bulletins specify the same inspection requirements as the original Service Bulletins, but revise the inspection compliance time from 50 flight hours to 10 flight hours. EASA classified these Service Bulletins as mandatory, and issued EASA

Emergency AD No. 2010-0216-E, dated October 21, 2010 (corrected October 29, 2010) to ensure the continued airworthiness of these helicopters.

### **FAA's Evaluation and Unsafe Condition Determination**

These products have been approved by the aviation authority of Germany and are approved for operation in the United States. Pursuant to our bilateral agreement with Germany, EASA, their technical representative, has notified us of the unsafe condition described in their AD. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of these same type designs. This proposed AD would require a one-time inspection of each main rotor blade for debonding of the main rotor blade erosion protective shell within 50 hours time-in-service (TIS), for helicopters with a main rotor blade, P/N 105-15103, 105-15141, 105-15141V001, 105-15143, 105-15150, 105-15150V001, 105-15152, 105-81013, 105-87214, 1120-15101, or 1120-15103, where the main rotor blade erosion protective shell was replaced between September 2006 and March 2010. If debonding is detected during the inspection, before further flight, you would be required to replace the main rotor blade with an airworthy main rotor blade.

### **Differences Between this Proposed AD and the EASA AD**

The differences between this proposed AD and the EASA AD are:

- This proposed AD uses the term “hours time-in-service” to describe compliance times, and the EASA AD uses “flight hours.”
- The EASA AD allows compliance within “10 flight hours, or 4 flight cycles, or 4 weeks, whichever occurs first,” and this proposed AD would require compliance within 50 hours TIS.
- The EASA AD allows you to replace the main rotor blade erosion protective shell if debonding is detected, and this proposed AD would require you to replace the main rotor blade with an airworthy main rotor blade if debonding is detected.
- The EASA AD is applicable to the Model BO-105D helicopter, and this

proposed AD does not include this model because it does not have a type-certificate in the US.

### **Costs of Compliance**

We estimate that this proposed AD would affect 97 helicopters of U.S. registry. We estimate that it would take about 1.0 work-hour per helicopter to do the inspection, at an average labor rate of \$85 per work hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$8,245, or \$85 per product. If debonding is found, we estimate that it would take about 2 work-hours to replace the main rotor blade, and required parts would cost \$114,182, for a cost of \$114,352. We have no way of determining how many operators would incur these costs.

### **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. Additionally, this proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that a regulatory distinction is required; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD. See the AD docket to examine the economic evaluation.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR Part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding a new airworthiness directive (AD) to read as follows:

**EUROCOPTER DEUTSCHLAND GMBH:** Docket No. FAA-2011-1285; Directorate Identifier 2010-SW-073-AD.

**Applicability:** Model BO-105A, BO-105C, BO-105LS A-1, BO-105LS A-3, and BO-105S helicopters, all serial numbers, with a main rotor blade, part number (P/N) 105-15103, 105-15141, 105-15141V001, 105-15143, 105-15150, 105-15150V001, 105-

15152, 105-81013, 105-87214, 1120-15101, or 1120-15103; where the main rotor blade erosion protective shell was replaced between September 2006 and March 2010; certificated in any category.

**Compliance:** Required within 50 hours time-in-service (TIS) after the effective date of this AD, unless accomplished previously.

To detect debonding of the main rotor blade erosion protective shell, which could lead to an unbalanced main rotor, high vibration, damage to the tail boom or tail rotor, and loss of control of the helicopter, accomplish the following:

(a) Inspect the main rotor blade for debonding of the erosion protective shell. If debonding is detected during the inspection, before further flight, replace the main rotor blade with an airworthy main rotor blade.

Note 1: Eurocopter Deutschland GmbH Emergency Alert Service Bulletin No. BO105-10-124, Revision 1, dated October 18, 2010, and No. BO105LS-10-12, Revision 1, dated October 20, 2010, which are not incorporated by reference, contain additional information about the subject of this AD.

(b) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Manager, Regulations and Policy Group, FAA, ATTN: Jim Grigg, Manager, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-5122; fax: (817) 222-5126, for information about previously approved alternative methods of compliance.

(c) The Joint Aircraft System/Component Code is 6210: Main Rotor Blades.



Note 2: The subject of this AD is addressed in European Aviation Safety Agency AD 2010-0216-E, dated October 21, 2010 (corrected October 29, 2010).

Issued in Fort Worth, Texas, on November 29, 2011.

Lance T. Gant,

Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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